

IN THE CLAIMS

1. (currently amended) A telecommunications apparatus ~~including~~ comprising:
a substantially box-shaped subrack having a back wiring board ~~mounting a~~
~~connector and~~ mounted with first connectors;

a plurality of shell-type plug-in units configured to be inserted in ~~in~~ into the subrack
so that a second connector of each of the plug-in units is connected to ~~the connector of~~
~~the subrack, the telecommunications apparatus comprising: a corresponding one of the~~
first connectors; and

a flexible, electrically conductive seal member ~~elastically deformedly~~ disposed
between a lateral surface of the plug-in units that are ~~unit~~ inserted into the subrack and an
interior portion of the subrack, said seal member being elastically deformed when a plug-
in unit is inserted into the subrack and the second connector thereof is connected to the
corresponding first connector so as to enclose both first and second connectors to provide
a shield the plug-in unit connector.

2. (currently amended) A telecommunications apparatus ~~including~~ comprising:
a substantially box-shaped subrack ~~having~~ including a back wiring board
~~mounting a connector~~ having a surface mounted with first connectors; and

a plurality of shell-type plug-in units that are inserted ~~in~~ into the subrack so that a
second connector of each of the plug-in units is connected to a corresponding one of the
first connectors; ~~the connector of the subrack,~~

wherein the subrack further comprises ~~comprising~~:

a ~~frame member comprising~~ a substantially square metallic frame member,
a plurality of panes aligned within the frame so as to form substantially
rectangular openings that accommodate and surround ~~the back wiring board~~ first
connectors between adjacent panes, and
a flexible, electrically conductive seal member covering the frame member and
the panes,
wherein the frame member is being fixedly mounted on the a surface of the back
wiring board ~~disposed opposite the inserted edge of the plug-in unit~~,
wherein a portion of a lateral surface of the plug-in unit that is inserted into the
subrack and surrounding ~~the plug-in unit~~ each second connector pressing against the
frame member so as to elastically deform the seal member and close the openings when
the plug-in unit is inserted into the subrack, and thereby to enclose the first and second
connectors to provide a shield.

3. (currently amended) The telecommunications apparatus as claimed in claim 2,
wherein:

the openings in the frame member are oblong shaped; and

the seal member has a flange portion on a side of the seal member ~~disposed~~
~~opposite an inserted end of the plug-in unit~~ confronting the surface of the back wiring
board,

the flange portion entering an interior of the oblong opening.

4. (currently amended) The telecommunications apparatus as claimed in claim 2, wherein:

the openings in the frame member are oblong shaped;

the seal member has a flange portion on a side of the seal member confronting the surface of the back wiring board ~~disposed opposite an inserted end of the plug-in unit~~, the flange portion entering an interior of the oblong opening; and

a lateral surface of the plug-in unit that is inserted into the subrack and that surrounds the plug-in unit connector having an oblong banked portion tapered at a periphery thereof,

the tapered surface of the oblong banked portion pressing the flange portion of the seal member, the seal member elastically deforming so as to conform to the tapered surface when the plug-in unit is mounted in the subrack.

5. (currently amended) The telecommunications apparatus as claimed in claim 2, wherein:

the seal member comprises a flange portion, provided on a surface of the seal member ~~disposed opposite~~ confronting the surface of the back wiring board[[,]] ~~the flange portion and~~ projecting from an edge of the oblong opening,

the flange portion being pressed against the surface of the back wiring board and elastically deformed when the frame member is fixedly mounted on the back wiring board.

6. (currently amended) The telecommunications apparatus as claimed in claim 2, wherein:

the seal member comprises, on a surface of the seal member ~~disposed opposite~~ confronting the surface of the back wiring board, a first flange portion projecting from an edge of the oblong opening, and a second flange portion projecting from a periphery of the frame member,

the first and second flange portions being pressed against the surface of the back wiring board and elastically deformed when the frame member is fixedly mounted on the back wiring board.

7. (currently amended) A telecommunications apparatus ~~including~~ comprising:
a substantially box-shaped subrack ~~having~~ including a back wiring board
~~mounting a connector~~ having a surface mounted with first connectors; and

a plurality of shell-type plug-in units inserted in the subrack so that a second connector of each of the plug-in units is connected to a corresponding one of the first connectors ~~the connector~~ of the subrack[[,]];

wherein the subrack further comprises ~~comprising~~:

~~a frame member comprising~~ a substantially square metallic frame member, and
a plurality of panes aligned within the frame member so as to form substantially rectangular openings that accommodate and surround the first ~~back wiring board~~ connectors between adjacent panes, the frame member being fixedly mounted on a ~~the~~ surface of the back wiring board ~~disposed opposite the inserted edge of the plug-in unit,~~

wherein the plug-in unit ~~having~~ has a flexible, electrically conductive seal member shaped so as to surround ~~the plug-in~~ each second connector, and

the seal member ~~elastically deforming~~ is elastically deformed so as to contact the frame member when the plug-in unit is mounted in the subrack, and thereby to enclose the first and second connectors to provide a shield.

8. (currently amended) A telecommunications apparatus ~~including~~ comprising:
a substantially box-shaped subrack ~~having~~ including a back wiring board
~~mounting a connector~~ and

a plurality of shell-type plug-in units inserted in the subrack so that a second connector of each of the plug-in units is connected to a corresponding one of the first connector connectors of the subrack, each plug-in unit including comprising:

a flexible, electrically conductive seal member shaped so as to surround the second plug-in connector,

wherein the seal member is elastically deformed ~~deforming~~ so as to contact the back wiring board when the plug-in unit is mounted in the subrack, and thereby to enclose the first and second connectors to provide a shield.

9. (currently amended) The telecommunications apparatus as claimed in claim 1,
wherein the seal member is made of a material selected from a group consisting of electrically conductive rubber, electrically conductive elastomer, electrically conductive sponge, electrically conductive plastic, electrically conductive gel rubber, electrically conductive silicon rubber, and dispenser gaskets ~~or a dispense gasket~~.

10. (currently amended) A telecommunications apparatus ~~including~~ comprising:
a substantially box-shaped subrack ~~having~~ including a back wiring board
~~mounting a connector~~ having a surface mounted with first connectors; and
a plurality of shell-type plug-in units inserted in the subrack so that a second
connector of each of the plug-in units is connected to a corresponding one of the first
connectors ~~connector of the subrack~~, the subrack further including comprising:
~~a frame member comprising~~ a substantially square metallic frame member; ~~and~~
a plurality of panes aligned within the frame so as to form substantially
rectangular openings that accommodate and surround ~~the back wiring board~~ each second
connector between adjacent panes, the frame member being fixedly mounted on a the
surface of the back wiring board ~~disposed opposite the inserted edge of the plug-in unit~~;
and
a seal member comprising a ~~long, thin~~ core spring member, a finger gasket that
engages the core spring member and an electrically conductive cloth wrapped around the
finger gasket, the seal member being mounted on inner sides of the frame member
openings so as to extend over an entire interior surface of said openings,
wherein each ~~the~~ plug-in unit has ~~having~~ a cover part shaped so as to conform to
the frame member openings and surround the second ~~plug-in unit~~ connector on a lateral
surface of the plug-in unit inserted into the subrack, edge surfaces of the cover projecting
beyond edges of the second ~~plug-in unit~~ connector, and
wherein the cover part is fitted into ~~fitting~~ the frame member openings when the
plug-in unit is inserted into the subrack so as to elastically deform the finger gasket, so

that an elastic force of the elastically deformed finger gasket causes ~~causing~~ the electrically conductive cloth to contact the cover part along an entire outer ~~periphery~~ peripheral surface of the cover part and provide a shield for the first and second connectors.

11. (currently amended) A shell-type plug-in unit ~~enclosed by~~ comprising:
a metal casing, containing a printed board therein, and configured to be inserted into a substantially box-shaped subrack having a back wiring board ~~mounting a connector~~ so that is mounted with first connectors and a flexible electrically conductive seal member; and

a second connector ~~of the plug-in unit is connected to the connector of the subrack,~~ a corresponding one of the first connectors when the metal casing is inserted into the subrack;

wherein said metal casing has a lateral surface of the plug-in unit inserted into the subrack and surrounding the second plug-in unit connector and has having a substantially oblong banked portion with a tapered periphery, the tapered periphery statically deforming the seal member when the plug-in unit is inserted into the subrack, so as to enclose the first and second connectors to provide a shield.

12. (currently amended) A shell-type plug-in unit ~~enclosed by~~ comprising:
a metal casing, containing a printed board therein, and configured to be inserted into a substantially box-shaped subrack having a back wiring board ~~mounting a connector~~ so that a connector of the plug-in unit is connected to the connector of the subrack, the

~~plug-in unit having~~ that is mounted with first connectors;

a second connector configured to connect to a corresponding one of the first connectors when the metal casing is inserted into the subrack; and

an electrically conductive optical fiber seal member having a through-hole of a size capable of admitting an optical fiber and a slit that extends from an external unit to the through-hole,

wherein the optical fiber seal member ~~is being~~ compressed after the optical fiber ~~is has been~~ passed through the slit and fitted ~~in~~ into the through-hole so as to engage an opening formed ~~in~~ on the metal casing of a size capable of admitting a plurality of optical fibers extending from a photoelectric conversion module mounted on ~~the~~ a-printed wiring board, to provide a shield with respect to the opening in the metal casing.

13. (currently amended) A shell-type plug-in unit ~~enclosed by~~ comprising:

a metal casing, containing a printed board therein, and configured to be inserted into a substantially box-shaped subrack having a back wiring board ~~mounting a connector so that a connector of the plug-in unit is connected to the connector of the subrack, the~~ plug-in unit having that is mounted with first connectors, and a frame member having openings exposing the first connectors;

a second connector configured to connect to a corresponding one of the first connectors when the metal casing is inserted into the subrack; and

a cover part shaped so as to conform to the ~~frame member~~ openings and surround the ~~plug-in unit~~ second connector on a lateral surface of the plug-in unit ~~inserted into the~~

subrack, edge surfaces of the cover part projecting beyond edges of the ~~plug-in unit~~
second connector,

said cover part providing a shield for the first and second connectors when the
metal casing is inserted into the subrack.